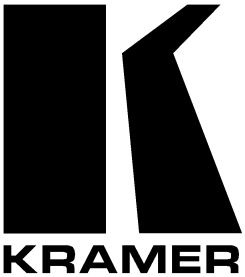
Kramer Electronics, Ltd.



USER MANUAL

Model:

VA-1DVI

Virtual EDID

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 350-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer Pico TOOLS **VA-1DVI** *Virtual EDID,* which is ideal for:

- Presentation graphics distribution
- Graphics production studios
- Extending a display away from the computer

Each package includes the following items:

- **VA-1DVI** *Virtual EDID*
- This user manual[2]

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[3]

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals from our Web site at http://www.kramerelectronics.com

3 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

3 Overview

The Kramer **VA-1DVI** is a unique DVI EDID emulator, with a DVI-D input and DVI-D output on DVI-I connectors. When connecting the **VA-1DVI** to a display device and pressing the CAPTURE EDID button, the **VA-1DVI** reads and stores the EDID (Extended Display Identification Data) from the display device[1].

For example, when the DVI signal is extended more than 100 meters over fiber optic cable, the **VA-1DVI** can emulate the EDID information[2]. The display can be disconnected and later reconnected, without rebooting the operating system. The **VA-1DVI** is housed in a Pico TOOLS enclosure, and is fed from a 12V power supply.

Note that only the digital signal (DVI-D) is available on the DVI connector

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your Kramer **VA-1DVI** away from moisture, excessive sunlight and dust

3.1 Defining EDID

The Extended Display Identification Data (EDID[3]) is a data-structure, provided by a display, to describe its capabilities to a graphics card (that is connected to the display's source). The EDID enables the **source**[4] to "know" what kind of monitor is connected to the output.

The EDID includes the manufacturer's name, the product type, the timing data supported by the display, the display size, luminance data and (for digital displays only) the pixel mapping data.

1 The computer needs to have the EDID information available when it boots up, otherwise the DVI output will be disabled

2 The DDC (Digital Display Channel) cable has no effect for distances over 100 meters

3 EDID is defined by a standard published by the Video Electronics Standards Association (VESA)

4 For example, a PC

4 Your VA-1DVI Virtual EDID

Figure 1 and Table 1 define the **VA-1DVI** *Virtual EDID*:

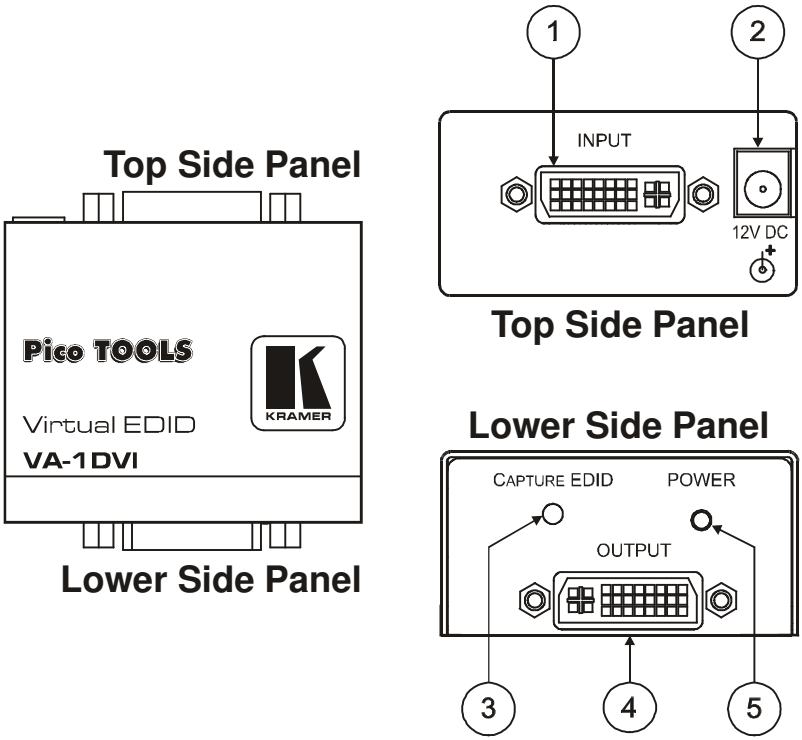

Figure 1: VA-1DVI Virtual EDID

Table 1: VA-1DVI Virtual EDID

#	Feature	Function
1	*INPUT* DVI Connector	Connect to the DVI source
2	*12V DC*	+12V DC connector for powering the unit
3	*CAPTURE EDID Button*	Press to acquire EDID
4	*OUTPUT* DVI Connector	Connect to the DVI acceptor
5	*POWER* LED	Lights when the power is connected

5 Connecting the VA-1DVI Virtual EDID

In the example illustrated in Figure 3, a projector is connected to a PC via an extended optic cable and the **VA-1DVI**. The PC needs the display's EDID information otherwise it will disable the output.

The configuration illustrated Figure 3 requires two separate stages:

- The **VA-1DVI** needs to read and store the projector's EDID information (see section 5.1)
- The **VA-1DVI** is connected between the PC and the remote projector[1], letting the PC read the acquired information (see section 5.2).

5.1 Acquiring the EDID

For the **VA-1DVI** to acquire the EDID information, as illustrated in Figure 2, do the following:

1. Connect the OUTPUT DVI connector to the input DVI connector of the display (for example, a projector).
2. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity[2] (not shown in this illustration).
   Make sure that the POWER LED lights.
3. Press the CAPTURE EDID button.
   The POWER LED turns off while the EDID information is read and stored in the **VA-1DVI** non-volatile memory. Once the POWER LED lights again, the EDID is stored.
4. Disconnect the projector's DVI connector from the OUTPUT DVI on the **VA-1DVI**.
5. Disconnect the power source.

1 Same projector

2 Also make sure that the projector is connected to the power supply

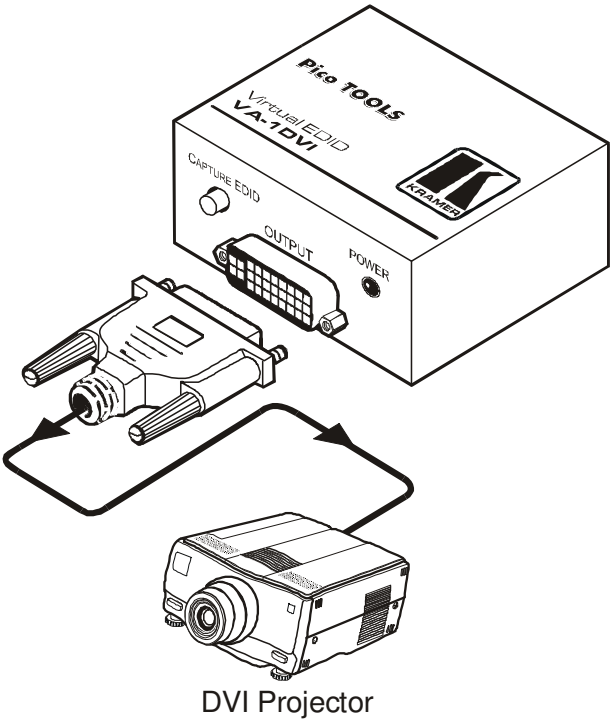

Figure 2: VA-1DVI – Acquiring the EDID from the Display Device

5.2 Reading the EDID

For the PC to read the EDID information, as illustrated in Figure 3, do the following[1]:

1. Connect a DVI source (for example, a DVI computer graphics source) to the INPUT DVI connector.
2. Connect the OUTPUT DVI connector of the **VA-1DVI** to the projector.
3. If required[2], connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

Turn the DVI source ON only after connecting the **VA-1DVI**, so it can acquire the EDID properly

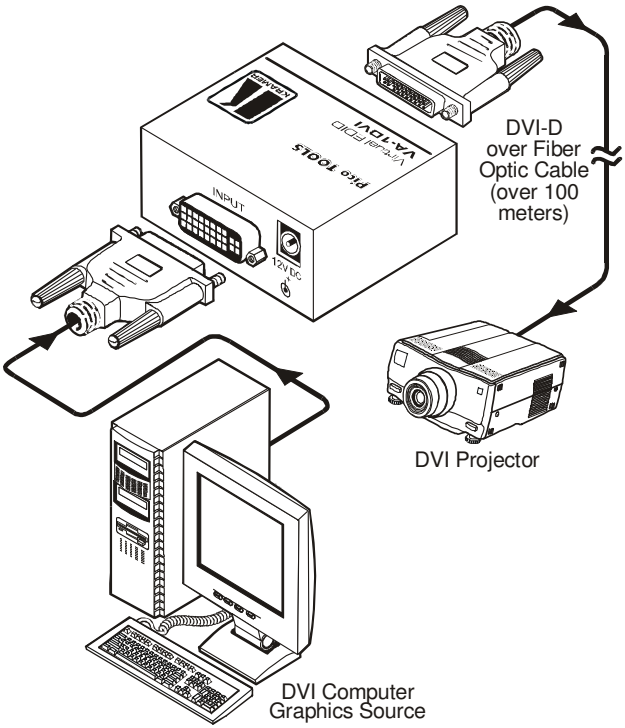

Figure 3: Connecting the VA-1DVI Virtual EDID

1 Switch OFF the power on each device before connecting it to your VA-1DVI

2 Usually, the PC can supply power to the unit

6 Technical Specifications

Table 2 includes the technical specifications:

Table 2: Technical Specifications[1] of the VA-1DVI Virtual EDID

INPUT:	1 DVI[2], 1.2Vpp on a DVI Molex 24pin female connector; DDC signal 5Vpp (TTL)
OUTPUTS:	1 DVI[2], 1.2Vpp on DVI Molex 24pin female connectors; DDC signal 5Vpp (TTL)
BANDWIDTH:	1.65Gbps
CONTROLS:	Capture EDID button
POWER SOURCE:	12V DC, 40mA
DIMENSIONS:	6cm x 6.5cm x 3cm (2.36" x 2.56" x 1.18") W, D, H
WEIGHT:	0.15 kg. (0.55 lbs) approx.

1 Specifications are subject to change without notice

2 On a DVI connector. Note that only the digital signal (DVI-D) is available on the DVI connector

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- ⌦ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ⌦ Use the supplied DC power supply to feed power to the machine.
- ⌦ Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

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